

REMARKS

Applicant thanks the Examiner for total consideration given the present application. Claims 1-22 and 25-48 were pending prior to the Office Action. Claims 1-22 and 25-48 have been cancelled without prejudice to or disclaimer of the subject matter contained therein and claims 49-106 have been added through this Reply. Accordingly, claims 49-106 are currently pending of which claims 49 and 79 are independent. Applicant respectfully requests allowance of the pending claims in light of the remarks presented herein.

CLAIM OBJECTION

Claims 1 and 2 were objected for minor informalities. These claims have been cancelled through this Reply rendering the rejection as moot.

35 U.S.C. § 112, FIRST PARAGRAPH REJECTION

Claims 1, 17, 20, 26, 29, 32, 35, 38, 41, 44, and 47 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. These claims have been cancelled through this Reply rendering the rejection as moot.

35 U.S.C. § 112, SECOND PARAGRAPH REJECTION

Claims 1-15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47, and 48 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being incomplete for omitting essential structural cooperative relations of elements. These claims have been cancelled through this Reply rendering the rejection as moot.

PRIOR ART REJECTION

Claims 1-5, 8-12, 15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47 and 48 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoshizawa A1)[hereinafter "Yoshizawa"] in view of Irwin (U.S. Patent No. 1,941,941)[hereinafter "Irwin"]. Claims 6 and 13 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoshizawa and Irwin, and in further view of Bradley (U.S. Patent No. 738,980)[hereinafter "Bradley"]. Claims 7 and 14 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoshizawa and Irwin, and further in view of Wilson

(U.S. Patent No. 3,549,018)[hereinafter "Wilson"]. The above-noted claims have been cancelled through this Reply rendering the rejections as moot.

NEW CLAIMS

Applicant respectfully submit that new claims 49-106 are allowable over the applied prior art references for the following reasons.

Independent claim 49

Independent claim 49 recites, *inter alia*, "wherein the frame includes . . . an upper side fixing section . . . wherein: the loading bed includes a frame section whose inner perimeter is larger than an outer perimeter of the substrate, and there is a gap between the upper side fixing section and the frame section." (*Emphasis added.*)

It is respectfully submitted that none of the applied prior art references, either alone or in combination, teaches or suggests the above-identified feature of claim 49.

According to the claimed invention of claim 49, there is a gap between the upper side fixing section (12) and the frame section (6b). (*See Figs. 1(a), 1(b) and 2 of the instant specification.*) Therefore, even if the stackable substrate carrying tray is shaken or so and the substrate is thus struck on the frame section (6b) so as to receive impact, the substrate never receives a counteraction from the upper side fixing section (12) of the frame (4) through the frame section (6b). Namely, the frame section (6b) can reduce the impact.

Yoshizawa is distinguished from the claimed invention in that nowhere does Yoshizawa teach or suggest a gap between the upper side fixing section (42d) and the frame section (41f). Therefore, when the stackable substrate carrying tray (40) is shaken or so and the substrate (20) is thus struck on the frame section (41f), the substrate receives a counteraction from the upper side fixing section (42d) through the frame section (41f). Namely, the frame section (41f) cannot reduce the impact.

None of Irwin, Bradely, and Wilson fulfils the above-noted deficiency of Yoshizawa. Accordingly, it is respectfully submitted that independent claim 49 is allowable over the applied prior art references.

Independent claim 79

Independent claim 79 recites, *inter alia*, “wherein the loading bed includes a frame section whose inner perimeter is larger than an outer perimeter of the substrate, an upper surface of the frame section being lower than the upper contact section.” (Emphasis added.)

It is respectfully submitted that none of the applied prior art references, either alone or in combination, teaches or suggests the above-identified feature of claim 79.

According to the claimed invention of claim 79, the upper surface of the frame section (6b) is lower than the upper contact section (11a, 11i). (See Figs. 1(a), 1(b) and 2 of the instant specification.) Therefore, even if the upper tray shifts, the lower surface of the upper tray is hardly to be struck by the frame section (6b) of the lower stackable substrate carrying tray, and thus the substrate on the stackable substrate carrying tray does not receive an impact.

Yoshizawa is distinguished from the claimed invention in that nowhere does Yoshizawa teach or suggest that the loading bed includes a frame section whose inner perimeter is larger than an outer perimeter of the substrate, an upper surface of the frame section being lower than the upper contact section as recited in claim 79. Indeed, as shown in Fig. 10B of Yoshizawa, the frame section (41f) is as tall as the upper contact section. Therefore, even if the upper contact section has a slope, the lower surface of the upper tray contacts the upper surface of the frame section (41f) of the lower tray when the upper tray shifts transversally. Therefore, it is respectfully submitted that Yoshizawa cannot perform the desired movement that the upper tray moves back by itself to the original position. In contrast, such desired movement is possible by the claimed invention since it requires that the upper surface of the frame section is lower than the upper contact section.

None of Irwin, Bradely, and Wilson fulfills the above-noted deficiency of Yoshizawa.

Accordingly, it is respectfully submitted that independent claim 79 is allowable over the applied prior art references.

Dependent Claims 50-78 and 80-106

Claims 50-78 and 80-106 are patentably distinct from the applied prior art references for at least the same reasons as their ultimate independent claims and further in view of the novel features recited therein.

For example, dependent claims 56 and 84 recite, *inter alia*, “wherein the upper contact section is formed in a shape enabling to move back the upper tray to a standard situation by making the lower surface of the upper tray move back on the upper contact section of the stackable substrate carrying tray by use of gravity and inclination of the upper contact section, when the upper tray has moved on the stackable substrate carrying tray so as to go out of the standard situation due to moving of the lower surface of the upper tray on the upper contact section of the stackable substrate carrying tray, the standard situation being a situation wherein a center of gravity of the upper tray is positioned right above a center of gravity of the stackable substrate carrying tray.” None of the applied prior art references, including the previous cited reference Pakeriasamy (US 5,957,293), either alone or in combination, teaches or suggests the above identified feature of claims 56 and 84.

The Examiner stated at page 6, section 15 in the previous Office Action dated October, 17, 2008 that Pakeriasamy discloses the upper and lower contact sections of the claimed invention. Namely, The Examiner stated at page 5, section 13, that the member seen on the left end of its figure 7 corresponds to the upper and lower contact sections of the present application.

However, the member seen on the left end of its figure 7 is, as a whole, an arrangement that the frame of the lower tray (tray member 11b) is engaged to the groove of the upper tray (tray member 11a).

On the contrary, in the present application, when the upper tray shifts horizontally, the lower contact section (11b, 11j) of the upper tray slides by itself on the upper contact section (11a, 11i) of the lower tray in the direction of decreasing the shift by use of gravity.

In the reference, if an impact, such as shaking, generates such a power as exceeds engagement of the groove and the frame and thus the upper tray (tray member 11a) shifts horizontally so that the frame comes off the groove as shown in Figure A (reproduced below), it

appears that no member can move the upper tray back to the original position. Thus, if the tray shifts and comes off, the frame becomes an obstacle and the upper tray becomes harder to move back. Namely, in this arrangement, the frame and the groove are the members for preventing the trays from shifting, but, once the trays shifts by a power exceeding the ability of the frame and the groove, the trays cannot return to the original situation any longer. Therefore, the claimed invention is distinguished from Pakeriasamy.

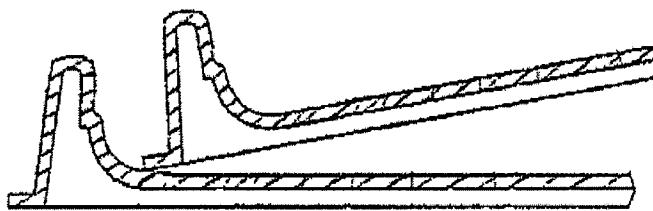


Figure A

Furthermore, an elbow room (See specification page 26, line 11) is really necessary for the sizes of the members (frame and groove) engaging to each other. Specifically, when shifting of the trays are prevented by engagement of the engaging members (frame and groove) as in Pakeriasamy, the engaging members need to engage each other enough tightly in order to avoid "undesired" easy disengagement. However, it is also necessary to perform "desired" easy disengagement. Additionally, it is also necessary to avoid clash of the frame to a portion other than the groove taking manufacturing errors into consideration. In order that, it is necessary to prepare a certain elbow room in each size of the engaging members.

However, if the elbow room in sizes are prepared, as explained by using Figs. 24 to 26 of the present application, the dispersion occurring by preparing the room are accumulated when many trays are stacked so that the whole trays are inclined or bended in a skew form like a

waveform, which thus generates a problem of instability. The cited reference does not mention or suggest this problem at all.

On the contrary, in the present application, the shift is not "prevented." Even if the tray shifts, it moves by itself back to the original position. This arrangement can resolve the above problem. Namely, the present application is not a technique using engagement of such as a frame and a groove and preventing of disengagement. Therefore, the problem of instability by preparing an elbow room in sizes never occurs due to the claimed structure of the upper and lower contact sections. Thus, it is respectfully submitted that Pakeriasamy fails to teach or suggest the claimed upper and lower contact sections as recited in claims 56 and 84.

In addition, Irwin also fails to teach or suggest the claimed upper and lower contact sections. The Examiner stated at page 11, section 31 in the previous Office Action that the elements 26a and 27 as shown in Fig. 8 of Irwin correspond to the upper and lower contact sections of the claimed invention.

However, the elements 26a and 27 are a projection and a hole, thus these correspond to the frame and the groove of the above noted reference Pakeriasamy. As demonstrated above in great detail with respect to Pakeriasamy, such frame and groove structures are distinguished from the claim upper and lower contact sections as recited in the claimed invention. Therefore, for the same reasons stated above with respect to Pakeriasamy, it is respectfully submitted that Irwin is distinguished from the claimed invention of claims 56 and 84.

Similarly, Bradley also has a pair of members which correspond to a frame and a groove, or a projection and a hole. Thus, for the same reasons stated above with respect to Pakeriasamy or Irwin, it is respectfully submitted that Bradley is distinguished from the claimed invention of claims 56 and 84.

Dependent claims 77 and 105 recite, *inter alia*, "wherein, at one end of the stackable substrate carrying tray, an entire slope of a surface for contact with the upper tray has only one of an upslope and a downslope toward interior of the stackable substrate carrying tray." None of the applied prior art references, including the previous cited reference

Pakeriasamy (US 5,957,293), either alone or in combination, teaches or suggests the above identified feature of claims 77 and 105.

In Pakeriasamy and Irwin, it is a frame and a groove or a projection and a hole that is provided on the surfaces via which the trays contact each other. Anyhow, they are convex and concave. In other words, each of the surfaces, via which the trays contact each other, has both an upslope and a downslope toward interior of the stackable substrate carrying tray. Namely, each of a frame and a projection has a shape that there is an upslope first and a downslope second; each of a groove and a hole has a shape that there is a downslope first and an upslope second. Because they have such shapes, they cannot be engaged again to each other by gravity, once they are disengaged, as described above.

On the contrary, in the claimed invention of claims 77 and 105, (also as shown in Figs. 1-21 of the instant specification) the slope has only one of an upslope and a downslope. Therefore, as described above, the upper tray can slide back to the original position by itself. Accordingly, it is respectfully submitted that claims 77 and 105 are allowable over the applied prior art references.

CONCLUSION

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ali M. Imam Reg. No. 58,755 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

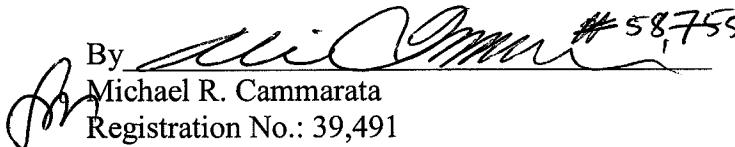
Application No. 10/578,321
Amendment dated August 14, 2009
Reply to Office Action of April 14, 2009

Docket No.: 1248-0870PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: August 14, 2009

Respectfully submitted,

By 
Michael R. Cammarata
Registration No.: 39,491
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant